## SCHOOL SCIENCE AND MATHEMATICS

1960



## INDEX BY TITLES

Accuracy of Statement. R. F. Graesser	35 234 25 511 693
В	
Bacteria Aboard Rocket Ships Could Survive Moon Temperatures Bacteria and Fungi, Find Several Masses Inhibit Growth of Bacteria Raise Hospital Deaths, Resistant Bacteriophage in the Classroom, PAUL KAHN Biology, A Rationale for the Teaching of, W. C. VANDEVENTER Blood for Use After Thirty Days, New Agent Preserves BOOK REVIEWS:	631 275 592 127 113 669
A Brief Text in Astronomy—Shilling. J. Bryce Lockwood.  Amusements in Mathematics—Dudeney. Cecil B. Read.  Basic Concepts in Chemistry—Watt. Gerald Osborn.  Basic Mathematics for High Schools—Thordarson. Phillip Peak.  College Mathematics for Freshmen—Smith. Cecil B. Read.  Collier's Encyclopaedia—Couch (edited by). George Mallinson.  Everyday Problems in Science—Beauchamp. George G. Mallinson.  Finite Mathematical Structures—Kemeny, Mirkil, Snell, Thomson. Cecil B. Read.	415 249 250 330 583 415 416
Fundamentals of Electronics—Mitchell. J. BRYCE LOCKWOOD	502 85 746 329
MALLINSON Mathematical Puzzles of Say Loyd—Gardner (ed.). CECIL B. READ. Mathematics and the Physical World—Kline. CECIL B. READ. Mathematics to Use—Potter. HERERT HANNON. On Mathematics and Mathematicians—Moritz. CECIL B. READ. Organic Chemistry—Brewster, McEwen. GERALD OSBORN. Physics, Foundations, and Frontiers—Gamow, Cleveland. J. BRYCE LOCKWOOD. Saturday Science, Scientists of the Westinghouse Research Laboratories. J. BRYCE	249 167 84 168 330 665
LOCKWOOD. The Math Entertainer—Heafford. CECIL B. READ. The Canterbury Puzzles—Dudeney. CECIL B. READ. The Romance of Chemistry—Irwin. GERALD OSBORN. The Scientific American Book of Mathematical Puzzles and Diversions—Gardner. CECIL B. READ. The World Book Encyclopedia. George G. MALLINSON. Tops and Gyroscopes—Campbell. J. BRYCE LOCKWOOD.	665 250 249 85 583 746 502 502
Understanding Chemistry—Lessing. Gerald Osborn.  Books and Teaching Aids Received	741 720
C	
Cadi's Decision, The. M. N. LEVINE.  CASMT By-Laws, Proposed Changes in	588 652 653
MATTHEW H. BRUCE, JR.  Cells Determine Behavior and Inheritance, Whole.  Central Association of Science and Mathematics Teachers.  Centrifugul Force, The Nature of. Catherine M. Bergen.  Ceramic Engineering Education for Tomorrow's High School Graduate. RALPH L.	593 206 240 673
COOK. Chemical Qualitative Analysis, A Modern Course in. CHARLES H. HEIMLER Chemicals Prove Hazard in California, Farm	95 632 610

Chemistry in the Secondary Schools of America, A Historical Treatment. GERALD	
OSBORN	621
Class, It Depends on the Circle Tangent to a Given Line and Passing Through Two Given Points. D. Maz-	670
KEWITSCH.  College Level Science Education—1959, Implications of the Findings of Recent Research in. Herman Branson.  College Level Science Education, Review of Recent Research. John H. Woodburn.	383
Color Pictures, Binocular Viewer, Filters Make	378 564 272
Comet Found in Southern Sky.  Comparative Education Seminar and Field Study for 1960.  Computer Components and Data Processong. On. Enoch J. Haga  Computers, Brief History of. Glen W. Watson, Edward C. Calhoun.  Convention, Highlights of the 1960. Lawrence A. Conrey.  Critical Thinking, Effect of Dogmatism on. C. Gratton Kemp.	130 187 87 567 314
D	
Dating Method, Heating Rocks Gives New Decimal Point in Slide Rule Answers, Locating the. WENDELL F. BENNETT. Disease, "Cloud Baby," New Concept for Spread of.	347 402 732
E	
Earth and Space Science in the K-12 Science Program. LOREN T. CALDWELL  Earth Like Steel, Plastic Material, Mantle of  Earth Satellite, Design Shown for Shuttle to  "Electrocuted" Cotton Found More Absorbent, Stronger	207 620 719
Electronic Lung Replaces Iron Lung.  Elementary Grade Level, Research in Science Teaching at the Betty Lockwood	223 178
WHEELER Elementary School Science in the Modern Curriculum, The Role of. JACQUELINE	351 525
MALLINSON. Elementary Science Education, Implications of the Findings of Recent Research in.	
PAUL E. BLACKWOOD.  Engineering Technician in Industry, The Function of the. G. Ross Henninger.  Equation $ax + by = c$ . On the. D. Mazkewitsch.	357 41 288
Equation $ax+by=c$ , On the. D. Mazkewitsch  Equation, Regular Pentagon and Quadratic. Ali R. Amir-Moez  Equations—An Aid to Enrichment, Linear Indeterminate. Donald R. Byrkit  Evidence Evaluation. B. Clifford Hendricks	733 627 36
Exponential and Logarithmic Functions, Modern Applications of Herman Rosen-	131
Eye for an i, An. William R. Ransom.  Eyes II, Queries Concerning the. John Satterly.	634 94
F	
Field Trips a Reality, Making Biological. BROTHER JOSEPH CAIN	276 5 227
G	
Gases, Thermal Conductivity of. Aurlocolus C. Herald, Jr	636 105 607
DALEY Gibberellin Feed Patented, May Speed Animal Growth	291 510
Goddard, Father of the Liquid Fuel Rocket, Robert H. ENOCH J. HAGA	706 585
Ĥ	
Heat Gulf Stream Gives Norway, Scientist Measures	300
I	
Illinois Council of Teachers of Mathematics, Springs Meetings of the	186 273 401
Ions Produced Easily	258

Jet Seen as "Ultimate Airplane," Orbiting.  John Hay Fellowships for 1961–62.	592 510
L	
Lens Tunnel, New Kodak Physics Building to Have 160-Foot	518
Letter to the Editor	322
Lightning Suggested as Tornado Cause	538
Look and See. Arthur C. Murdock	16 240
Low-Merting Elements Make riigh Heat Material, 1 wo	240
M	
Magnetism Aids Man in War Against Disease	213
Magnetism Influences Plants, Animals, Russians Find	505
Malaria Still Exists in 30% of the Americas	736 678
Mathematically Gifted High School Students, An Annotated Bibliography for	010
Teachers of. MARGARET F. WILLERDING.	611
Mathematics, Dramatizing. MARGARET F. WILLERDING	99
Mathematics Education, Some Needed Breakthroughs on. Monte S. Norton	533
Mathematics, My Father, My Dog and. Ben L. Swenson	400 301
Mathematics Teachers, Academic Backgrounds of Kansas. John M. Burger	139
Mathematics, The Education of Secondary and Collegiate Teachers of. MARC A.	
LAFRAMBOISE. Means and Progressions. H. D. LARSEN.	267
Memory, "Horn" Thought to Play Important Role in	34 538
Metals for Effects of Sun's Heat, Study	190
Meteor Rates, New Table Shows Hourly	523
Milk Still Best Food in Spite of Strontium-90.	566
Missile Repair, Standards for Tiny Screws to Ease.	107
Mohole Project Planned in Pacific Area, New Step in  Moon Has Atmosphere of Cold Neutral Hydrogen	543 399
Moon Maps for Landing Sites Made for Army Engineers	672
Moon Maps for Landing Sites Made for Army Engineers.  Multiplication—a Reply, Socialized. John C. Bryan.	199
Musky, Like Tree, Reveals Age by Its Rings, Prize	728
N	
National Defense Education Act, Modernizing Science Equipment Under the. Sor D.	
PRENSKY. National Geographic Society Launches 39th Year of Weekly School Bulletins	723
National Merit Scholarship Qualifying Test, A Study of the Influence of an Inspira-	625
tional Science or Mathematics Teacher Upon Student Achievement as Measured	
by the. Goulding E. Sanderson and Kenneth E. Anderson	339
National Merit Scholarship Testing Program, A Study of the Relationships of Non-	
Academic Correlates to Achievement Participants and Non-Participants in the. George J. Silovsky and Kenneth E. Anderson	191
National Science Foundation Announces 379 Summer Institutes for High School and	191
College Teachers of Science, Mathematics, and Engineering	150
National Science Foundation Sponsored Science Curriculum Studies.  Nature, 181 Million Acres of. C. W. MATTISON.	287
Nature, 181 Million Acres of C. W. MATTISON	27
Non-Luminous Candle Flame, An Apparatus for Producing a. HAROLD J. ABRAHAMS,	503
STEPHEN ROSENZWEIG, and HOWARD FRIEDMAN	320
NSTA Convention, Annual	104
0	
Ohm's Law Through the Looking Glass. FRIEDA A. STAHL	715
Old Concepts with New Ideas. SISTER MARY CECELIA BODMAN, B.V.M	235
Out-of-Doors, Taking the School, JOHN W. BRAINERD	63
P	
Paper Negatives-A Simple, Inexpensive Technique for Obtaining Microphoto-	
graphs. ROBERT C. GOSS and LARRY H. OGREN.  Particle Detectors Used in High-Energy Physics. EDWARD C. CALHOON and GLEN W.	639
Particle Detectors Used in High-Energy Physics. EDWARD C. CALHOON and GLEN W.	
WATSON	17

Physical Sciences, Modern Curriculum Problems in the. Gerald Osborn.  Physical Sciences, Modern Curriculum Problems in the. Gordon Noble.  Physics for the First Grade, On. Raymond J. Seeger.  Physics to Engineers at Yale, Developments in Teaching. W. W. Watson.  Pi: An Essay in Mathematical Progress from the Great Pyramid to Eniac, Evolution	259 524 528 169 262
#, Historical Oddities Relating to the Number. CECIL B. READ.  Planetaria in Teaching Space Science, The Place of. JAMES A. FOWLER.  Polio Vaccine by Mouth Ready for Mass Use in 1961.  Polio Viruses Photographed for First Time Inside Cell.  Polio Virus Widespread Throughout U. S. Now.  Polyhedra of any Dimension, Owen BRADFORD.	348 539 728 284 138 589
	506 553 737 709 519 333
R	
Radio Telescopes, New Method Found for Large Radioisotope Used in Diagnosing Bone Diseases. Rare Earths, Not Rare, Finding Nuclear Jobs. Rate and Ratio in the Middle Grades, Teaching. RICHARD D. CRUMLEY. Rational Numbers and Terminating Placemal Fractions. ROBERT C. MCLEAN, JR. Reviews and Implications of Research, Summary of. CYRUS W. BARNES. Rockets for Daily Weather Use, Foresee Cheap. Rockets to Probe Sun's Behavior, Astronomers Use. Rydberg's Constant, The Dimensions of. R. F. TRIMBLE, JR.	221 645 223 546 143 626 395 112 313 551
S	
Satellite, Tiny Drum Could Carry Information in	198 705 285
Science Majors, Departmental Guidance for. VIRGIL HENISER	181 224 685 299 290
Secondary School, Studies in Science Education for 1958-1959: The. Hubert M.	372
Semantics, Some Antics with Leonard H. Gobler.  Semimicro Chemistry Laboratory, Student Reactions to Carl Engels  Series and Parallel Circuit Combinations, Investigations in Barry Mackichan  Seventh Graders' Ability to Solve Problems, VINCENT E. ALEXANDER	360 14 521 646 603
Silvering of Glass. RALPH E. DUNBAR. Smoke Doesn't Always Rise. Glenn F. Powers and Faril Simpson. Soliday, A Tribute to Ray and Eleanor. James H. Otto.	401 406 4 667
Space Probe to Test for Possible Martian Life, Urge.  Space Program, Things to Come in	57 520 645 206
Space Research, Recent Developments in. A. H. Shapley. Space Satellites. Squares and Cubes, Square-Off at. ENOCH J. HAGA	251 104 122 729
State Science Bulletins Step Function Notations, John L. Spence. Stopcock Grease, Ralph E. Dunbar.	635 179 406
Strontium-90, Soil Treatment May Reduce	631 714

Summer School Science—Take 'Em Outdoors, Recipe for, HAROLD R. HUNGERFORD	-
and Guisto Patinella	547
T	
TB as Cancer Treatment, Doctor Urges Study of. Teacher Load in Science and Mathematics. Monte S. Norton. Technical Paper, Organization—In Preparing a. M. D. Stone. Telescope to Be Built at Kitt Peak National Observatory, World's Largest Solar. Thermonuclear Research, New Tool Developed for. Translation Program, American Institute of Biological Sciences. Triangle Theorem, A. D. Moody Bally. Triangle Theorem, Extension of a. D. Moody Bally. Tsiolkovsky, Pioneer Astronaut, Konstantin. Enoch J. Haga. Two-Cycle Gasoline Engine, Explanation of the. Rebecca E. Andrews.	550 108 269 552 672 532 281 679
U	
Units in Measurement Should Be Meaningful. DAVID RAPPAPORT	202
V	
Vaccine Protects Against Polio, One Swallow of Live Virus	350 347
W	
Water Must Be Protected from Mine Contamination	35
X	
X-Ray Movies, Causes of Speech Problems Spotted with	322

## INDEX BY AUTHORS

ALEXANDER, VINCENT E., Culver City Unified School District, Culver City, Calif  AMIR-MOEZ, A. R., Formerly of Queens College, Flushing, New York, Presently of Purdue University, Lafayette, Ind	320 603 257 339 544
В	
Bergen, Catherine M., New Jersey State Teachers College.  BLACKWOOD, PAUL E., U. S. Office of Education, Washington, D. C.  BOECKMANN, Hermann, Bloomington, Ill.  BRADFORD, OWEN, Amityville Memorial High School, Amityville, N. Y.  BRAINERD, JOHN W., Springfield College, Springfield, Mass.	409 395 73 333 693 402 673 357 576 589 63 383 161 276 245 593 199 139 497
C	
Caldwell, Loren T., Northern Illinois University, DeKalb, Ill.  Calhoon, Edward C., University of California, Berkeley, Calif	207 7, 87 5 291 567 95 143
D	
Davis, Kevin, Mt. Lebonan High School, Pittsburgh, Pa.  De Francis, John, Quinnipiac College, Hamden, Conn.	291 739 301 406
E	
ENGELS, CARL, Western Michigan University, Kalamazoo, Mich	658 521 360
F	
Frazier, Ralph P., Office of Education, Washington 25, D. C Freitag, Herta T., Roanoke, Va.	539 503 577 320

	GOLBER, LEONARD H., Pullman Elementary School, Chicago 28, Ill	14 229 639 35 323
	Н	
	HAGA, ENOCH J., formerly: California Medical Facility, Vacaville, Calif. presently: Stanislaus State College, Turlock, Calif	5,729 84 578 632 36 224 41 636 547
	K	
]	KAHN, PAUL, Bronx High School of Science, Bronx, N. Y	137 314
	L	
I	AFRAMBOISE, MARC A., University of Detroit, Detroit, Mich  ARSEN, H. D., Albion College, Albion, Mich  EIFER, HERBERT R., Pittsburgh, Pa  LEVINE, M. H., Maryland State College, Princess Anne, Md  LINDSEY, J. W., Amarillo, Texas  LOCKWOOD, J. BRYCE, Highland Park Junior College, Highland Park, Mich  415, 502, 665, 666.	267 34 324 588 245
1	M MACKICHAN, BARRY, Central High School, Grand Forks, N. D. MAIERS, WESLEY W., Valparaiso High School, Valparaiso, Ind MALLINSON, GEORGE, Western Michigan University, Kalamazoo, Mich	646 273
N N N N N N N N N N N N N N N N N N N	MALLINSON, GEORGE, Western Michigan University, Kalamazoo, Mich.  329, 415, 416, MALLINSON, JACQUELINE, Kalamazoo, Mich. MATTISON, C. W., U. S. Forest Service, Washington, D. C. MAYER, JOSEPH, Western College for Women, Oxford, Ohio. MAYOR, JOHN R., AAAS and University of Maryland. MAZKEWITSCH, D., University of Cincinnati, Chio.  222, MCLEAN, ROBERT C., Jr., Los Angeles City Schools, Los Angeles, Calif MELLER, ROY D., Arlington High School, Arlington Heights, Ill. Meppellink, Fred, West Ottawa School, Holland, Mich. MOSER, LEO, University of Alberta, Canada MURDOCK, ARTHUR C., Sutton High School, Sutton, Mass MURPHY, PATRICIA, Visitation High School, Chicago, Ill.	285
	N	
LLL	NELSON, PEARL ASTRID, Boston University, Boston, Mass	670 105 57 528 533
	0	
	GREN, LARRY H., Loyola University of the South, New Orleans, La	639
0	85, 250, 330, 502, 524, TTO, JAMES H., Indianapolis, Ind.	667
-	p	
27	- The state of the	EAN
	ATINELLA, GUESTO, West Junior High School, Kankakee, Ill	547 330

Perisho, Clarence R., Mankato State College, Mankato, Minn  Powers, Glenn F., Northeast Louisiana State College, Monroe, La  Prensky, Sol D., Fairleigh Dickinson University, Teaneck, N. J	227 4 723
R	
RANSOM, WILLIAM, R., Tufts University, Medford, Mass	634 202 737
REINER, WILLIAM B., Board of Education, City of New York, New York, N. Y ROBINSON, EDITH, Madison, Wis ROBINSON, JAMES T., 805 Rockne Ave., Whittier, Calif ROSENBERG, HERMAN, New York University, New York, N. Y. ROSENZWEIG, STEPHEN, Public High School, Philadelphia, Pa	372 657 685 131 320
S	
SANDERSON, GOULDING E., University of Kansas, Lawrence, Kan.  SATTERLY, JOHN, University of Toronto, Toronto, Canada.  SCRIVENS, GERALD, Titusville Junior High, Titusville, Pa  SEEGER, RAYMOND J., National Science Foundation, Washington 25, D. C.  SHAPLEY, A. H., National Bureau of Standards, Boulder, Colo.  SILOVSKY, GEORGE J., University of Kansas, Lawrence, Kan.  SIMPSON, FARIL, Arkansas State Teachers College, Conway, Ark.  SISTER MARY CECILIA BODMAN, B.V.M., Mundelein College, Chicago 40, Ill.  SMITH, VICTOR C., Formerly, Ramsey Junior High School, Minneapolis, Minn.  SPENCE, JOHN L., Rt. 1, Box 110, Buckeye, Ariz.  STAHL, FRIEDA A., 7624 Flight Ave., Los Angeles 45, Calif.  STONE, M. D., United Engineering and Foundry Co., Pittsburgh, Pa.  STONEBARGER, CHARLES W., University Lake School, Hartland, Wis.  STRATTON, RICHARD D., Nebraska State Teachers College, Chadron, Neb.  SUND, ROBERT B., 415 South 5th St., Corvallis, Ore.  SWENSON, BEN L., Robert E. Lee High School, Baytown, Texas	339 94 519 169 251 191 4 235 607 179 715 269 720 244 706 400
T	
Talbot, W. R., Jefferson City, Mo	737
TRIMBLE, R. F., Jr., Southern Illinois University, Carbondale, Ill.	551
V V	442
VanDeventer, W. C., Western Michigan University, Kalamazoo, Mich	113
W	
Walker, Lloyd A., San Mateo, Calif. Watson, Glen W., University of California, Berkeley, Calif. 17 Watson, W. W., Yale University, New Haven, Conn Wayne, Alan, Baldwin, N. Y. Wheeler, Betty Lockwood, Mt. Pleasant, Mich Wilkins, Kenneth, Detroit, Mich Wilkins, Kenneth, Detroit, Mich 79, 99, 160, 243, 323, 407, 495, 511, 571, 611, 654, Woodburn, John H., John Hopkins University, Baltimore, Md Woods, Dale, Kirksville, Mo.	262 655 351 577





